CLAIMS:

1. A method of avoiding an amplified spontaneous emission (ASE) loop in an optical network comprising a plurality of nodes coupled via optical paths, the nodes and optical paths forming a loop in the network, comprising the steps of:

dividing an optical spectrum of the optical network into a plurality of separate spectral bands; and

providing a plurality of optical seam filters, each optically interrupting optical signals in a respective spectral band, distributed among a plurality of nodes around the loop whereby optical signals in at least one spectral band are optically interrupted in a different node from optical signals in at least one other spectral band, the optical seam filters providing at least one optical interruption around the loop for each spectral band.

2. A method as claimed in claim 1 and including the step of, for at least one node including an optical seam filter for a spectral band, add/drop multiplexing optical signals of the spectral band at the node.

3. A method as claimed in claim 1 wherein the optical spectrum is divided into at least two non-overlapping spectral bands each including a plurality of optical wavelengths.

4. A method as claimed in claim 1 wherein the optical spectrum is divided into at least two spectral bands having interleaved optical wavelengths.

5. A method of avoiding amplified spontaneous emission (ASE) loops in an optical network comprising a plurality of nodes coupled via optical paths, the nodes and optical paths

forming a plurality of loops in the network, comprising avoiding an ASE loop in each of a plurality of said loops by the method of claim 1.

6. A method as claimed in claim 5 and including the step of, for at least one node including an optical seam filter for a spectral band, add/drop multiplexing optical signals of the spectral band at the node.

7. A method as claimed in claim 5 wherein the optical spectrum is divided into at least two non-overlapping spectral bands each including a plurality of optical wavelengths.

8. A method as claimed in claim 5 wherein the optical spectrum is divided into at least two spectral bands having interleaved optical wavelengths.

9. An optical network comprising a plurality of nodes coupled via optical paths, the nodes and paths forming a loop in the network, wherein an optical spectrum for communications among the nodes via the optical paths comprises a plurality of separate spectral bands, and wherein a plurality of nodes in the loop each comprise at least one optical seam filter for optically interrupting the loop for optical signals in a respective one of the spectral bands, all of the spectral bands of the optical spectrum thereby being optically interrupted by respective optical seam filters distributed among at least two nodes in the loop.

10. An optical network as claimed in claim 9 wherein at least one of the plurality of nodes in the loop comprising an optical seam filter further comprises an optical add/drop multiplexer for add/drop multiplexing optical signals of the respective spectral band at the node.

11. An optical network as claimed in claim 8 wherein the optical spectrum comprises at least two non-overlapping spectral bands each including a plurality of optical wavelengths.

12. An optical network as claimed in claim 8 wherein the optical spectrum comprises at least two spectral bands having interleaved optical wavelengths.

13. An optical network comprising a plurality of nodes coupled via optical paths, the nodes and paths forming a plurality of loops in the network, wherein an optical spectrum for communications among the nodes via the optical paths comprises a plurality of separate spectral bands, and wherein a plurality of nodes in each of a plurality of the loops each comprise at least one optical seam filter for optically interrupting the respective loop for optical signals in a respective one of the spectral bands, all of the spectral bands of the optical spectrum thereby being optically interrupted by respective optical seam filters distributed among at least two nodes in the respective one of the plurality of loops.

14. An optical network as claimed in claim 13 wherein at least one of the plurality of nodes in the loop comprising an optical seam filter further comprises an optical add/drop multiplexer for add/drop multiplexing optical signals of the respective spectral band at the node.

15. An optical network as claimed in claim 13 wherein the optical spectrum comprises at least two non-overlapping spectral bands each including a plurality of optical wavelengths.

16. An optical network as claimed in claim 13 wherein the optical spectrum comprises at least two spectral bands having interleaved optical wavelengths.

17. A method of avoiding amplified spontaneous emission (ASE) loops in an optical network comprising nodes coupled via optical fibers, comprising the steps of, in each of one or more loops each comprising a plurality of the nodes:

providing an optical seam filter for a first spectral band of an optical spectrum of the optical network in a first one of the nodes of the loop thereby to optically interrupt the loop for optical wavelengths within said first spectral band; and

providing an optical seam filter for at least one other spectral band of the optical spectrum in at least one other of the nodes of the loop, thereby to optically interrupt the loop for optical wavelengths in said at least one other spectral band, whereby the loop is optically interrupted for all spectral bands of the optical spectrum.

18. A method as claimed in claim 17 and including the step of, for at least one node including an optical seam filter for a spectral band, add/drop multiplexing optical signals of the spectral band at the node.

19. A method as claimed in claim 18 wherein the optical spectrum is divided into at least two non-overlapping spectral bands each including a plurality of optical wavelengths.

20. A method as claimed in claim 18 wherein the optical spectrum is divided into at least two spectral bands having interleaved optical wavelengths.